

AMENDMENTS TO THE CLAIMS

Please amend the specification as indicated hereafter. [Use ~~strikethrough~~ for deleted matter (or double square brackets "[[]]" if the strikethrough is not easily perceivable, *i.e.*, "4" or a punctuation mark) and underlined for added matter.]

1. (Currently amended) A particulate-matter-delivery system comprising:
 - (IA) a cylindrical storage hopper having:
 - (IA1) a substantially-circular profile along the cylindrical axis; and
 - (IA2) a substantially-circular hopper opening adapted to expel particulate matter from the cylindrical storage hopper;
 - (IB) a bin having:
 - (IB1) a bin outlet;
 - (IB2) a trough-shaped feeder having a substantially-rectangular top opening, and a substantially-rectangular bottom opening coupled to the bin outlet; and
 - (IB3) a transitional section having:
 - (IB3a) a substantially-circular opening coupled to the substantially-circular hopper opening;
 - (IB3b) a circular-to-rectangular conduit interposed between the substantially-circular ~~bin~~ hopper opening and the substantially-rectangular top opening of the trough-shaped feeder;
 - (IC) an auger having an auger rotational axis, the auger being located within the bin, the auger being operatively coupled to the bin outlet, the auger being configured to rotate about the auger rotational axis; and
 - (ID) an auger motor coupled to the auger, the auger motor being configured to rotate the auger about the auger rotational axis when the motor is activated, the rotating of the auger resulting in expulsion of the particulate matter through the bin outlet.

2. (Currently Amended) The system of claim 1, further ~~comprising~~ comprising:
an agitator having an agitator rotational axis, the agitator being located within the bin; and
an agitator motor coupled to the agitator, the agitator motor being configured to rotate the agitator about the agitator rotational axis, the rotating of the agitator resulting in agitation of the particulate matter in the bin.
3. (Currently amended) A particulate-matter-delivery system comprising:
a trough-shaped feeder with a rectangular feeder opening and a rectangular feeder exit; and
a trough-shaped outlet section mated to the rectangular feeder exit, and having an outlet opening; and
a rectangular-to-circular conduit having a circular end and a rectangular end, the rectangular-to-circular conduit extending from the rectangular opening of the trough-shaped feeder, the circular end having a circular conduit opening, the rectangular end having a rectangular opening mated to the rectangular feeder opening.
4. (Currently amended) ~~The system of claim 3~~ A particulate-matter-delivery system comprising:
a trough-shaped feeder with a rectangular feeder opening; and
a rectangular-to-circular conduit having a circular end and a rectangular end, the rectangular-to-circular conduit extending from the rectangular opening of the trough-shaped feeder, the circular end having a circular conduit opening, the rectangular end having a rectangular opening mated to the rectangular feeder opening, wherein the area of the rectangular feeder opening is greater than the area of the circular conduit opening.

5. (Currently amended) The system of claim 34, further comprising a storage hopper having a circular hopper opening, the circular hopper opening being coupled to the circular conduit opening.
6. (Currently amended) The system of claim 34, further comprising:
 - an auger located within the trough-shaped feeder, the auger having an auger rotational axis; and
 - an auger motor coupled to the auger, the auger motor being configured to rotate the auger about the auger rotational axis when the motor is activated, the rotating of the auger resulting in expulsion of the particulate matter from the trough-shaped feeder.
7. (Original) A particulate-matter-delivery system comprising:
 - a trough-shaped feeder with a substantially-rectangular feeder opening; and
 - a rectangular-to-elliptical conduit having an elliptical end and a rectangular end, the rectangular-to-elliptical conduit extending from the substantially-rectangular opening of the trough-shaped feeder, the elliptical end having a substantially-elliptical conduit opening, the rectangular end having a substantially-rectangular conduit opening, the substantially-rectangular conduit opening being mated to the substantially-rectangular feeder opening.
8. (Cancelled)
9. (Original) The system of claim 7, wherein the area of the substantially-rectangular feeder opening is greater than the area of the substantially-elliptical conduit opening.

10. (Original) The system of claim 9, wherein the cross-sectional area of the rectangular-to-elliptical conduit progressively decreases from the rectangular conduit end to the elliptical conduit end.
11. (Original) The system of claim 7, further comprising a storage hopper having a substantially-elliptical hopper opening, the substantially-elliptical hopper opening being coupled to the substantially-elliptical conduit opening.
12. (Original) The system of claim 7, wherein the trough-shaped feeder comprises means for expelling particulate matter.
13. (Original) The system of claim 7, wherein the trough-shaped feeder comprises an outlet adapted to expel particulate matter.
14. (Currently amended) The system of claim 3, further comprising:
 - an auger located within the trough-shaped ~~feeder~~outlet section, the auger being operatively coupled to the outlet opening, the auger having an auger rotational axis; and
 - an auger motor coupled to the auger, the auger motor being configured to rotate the auger about the auger rotational axis when the motor is activated, the rotating of the auger resulting in expulsion of the particulate matter through the outlet opening.
15. (Original) The system of claim 13, wherein the combination of the trough-shaped feeder and the rectangular-to-elliptical conduit defines a bin.
16. (Original) The system of claim 15, further comprising:
 - an agitator located within the bin, the agitator having an agitator rotational axis; and

an agitator motor coupled to the agitator, the agitator motor being configured to rotate the agitator about the agitator rotational axis, the rotating of the agitator resulting in agitation of particulate matter in the bin.

17. (Currently amended) A method for reducing bridging in particulate-matter-delivery systems, the method comprising the steps of:

interfacing a storage hopper with a trough-shaped feeder using a circular-to-rectangular conduit having a circular opening at one end for interfacing the storage hopper and a rectangular opening at an opposite end for interfacing the trough-shaped feeder, the area of the rectangular opening being greater than the area of the circular opening; and

directing particulate matter from the storage hopper to the trough-shaped feeder through the circular-to-rectangular conduit.

18. (Original) A method for reducing bridging in particulate-matter-delivery systems, the method comprising the steps of:

interfacing a storage hopper with a trough-shaped feeder using an elliptical-to-rectangular conduit; and

directing particulate matter from the storage hopper to the trough-shaped feeder through the elliptical-to-rectangular conduit.

19. (Original) The method of claim 18, wherein the interfacing step comprises the step of:

providing an elliptical-to-rectangular conduit having a substantially-elliptical opening at the elliptical end of the conduit and a substantially-rectangular opening at the rectangular end of the conduit, the area of the substantially-rectangular opening being greater than the area of the substantially-elliptical opening.

20. (Original) The method of claim 18, wherein the interfacing step comprises the steps of:

coupling the storage hopper to the elliptical end of the elliptical-to-rectangular conduit; and coupling the trough-shaped feeder to the rectangular end of the elliptical-to-rectangular conduit.

21. (Original) A method for reducing bridging in particulate-matter-delivery systems, the method comprising the steps of:

coupling a cylindrical storage hopper to a elliptical end of the elliptical-to-rectangular conduit, the cylindrical storage hopper having a substantially-elliptical axial profile, the cylindrical storage hopper further having a substantially-elliptical hopper opening, the elliptical end of the elliptical-to-rectangular conduit having a substantially-elliptical conduit opening, the substantially-elliptical conduit opening being substantially similar in shape to the substantially-elliptical hopper opening, the substantially-elliptical conduit opening being substantially similar in size to the substantially-elliptical hopper opening; and

coupling a trough-shaped feeder to a rectangular end of the elliptical-to-rectangular conduit, the trough-shaped feeder having a substantially-rectangular feeder opening, the rectangular end of the elliptical-to-rectangular conduit having a substantially-rectangular conduit opening, the substantially-rectangular conduit opening being substantially similar in shape to the substantially-rectangular feeder opening, the substantially-rectangular conduit opening being substantially similar in size to the substantially-rectangular feeder opening.

22. (Original) The method of claim 21, further comprising the step of:

directing particulate matter from the storage hopper to the trough-shaped feeder through the elliptical-to-rectangular conduit.

23. (New) The system of claim 1 wherein the area of the substantially-rectangular top opening is greater than the area of the substantially-circular bin opening.

24. (New) The system of claim 3, the rectangular feeder exit having a smaller cross-sectional area than a cross-sectional area of the rectangular feed opening.
25. (New) A particulate-matter-delivery system comprising:
a trough-shaped feeder with a rectangular feeder opening; and
a rectangular-to-circular conduit having a circular end and a rectangular end, the rectangular-to-circular conduit extending from the rectangular opening of the trough-shaped feeder, the circular end having a circular conduit opening, the rectangular end having a rectangular opening mated to the rectangular feeder opening, wherein the trough-shaped feeder has a pair of opposed, parallel sides.
26. (New) A particulate-matter-delivery system comprising:
a trough-shaped feeder with a rectangular feeder opening; and
a rectangular-to-circular conduit having a circular end and a rectangular end, the rectangular-to-circular conduit extending from the rectangular opening of the trough-shaped feeder, the circular end having a circular conduit opening, the rectangular end having a rectangular opening mated to the rectangular feeder opening, the rectangular-to-circular conduit having sides that diverge from each other as they move away from the circular end towards the rectangular end.
27. (New) The system of claim 26, wherein the trough-shaped feeder has a pair of opposed, parallel sides.
28. (New) The system of claim 3, further comprising:
an agitator having an agitator rotational axis, the agitator being located within the trough-shaped feeder; and
an agitator motor coupled to the agitator, the agitator motor being configured to rotate the agitator about the agitator rotational axis, the rotating of